# SEARCH ENGINE FOR LARGE DATABASE SEARCH USING CAM AND HASH

## Abstract of Disclosure

A search engine having a controller, a memory, and at least one hash-CAM (H-CAM). The memory includes a database of search values and associate content or just associate content. The controller uses search values to access the memory to obtain the search results. The H-CAM includes at least one set of paired hash units and CAM units and at least one logic unit. The CAM units hold values known to cause hash collisions in the paired hash units, and the logic unit prioritizes the hash and CAM unit outputs to address values usable to access the memory and obtain a search result at the controller that is not the result of a hash collision. The H-CAM may optionally include a search data storage to store the search values, so that they need not be stored in the memory, and a comparator to determine and handle new search data based hash collisions. The H-CAM may optionally also be cascaded.

## Figures